

REMARKS

Claim Numbering

Please note that the Examiner examined the wrong claims. The Examiner examined the originally filed claims 1-17. Those claims were replaced with claims 18-33 by preliminary amendment. Since the subject matter of the two sets of claims is practically identical Applicant employed the following translation between the examined claim numbers and the pending claim numbers:

Examined Claim Number -- Corresponding Pending Claim Number

1--18

2--19

3--20

4--25

5--26

6--27

7--21

8--22

9---23

10--24

11--28

12--29

13--30

14--31

15--32

16--33

17--none

Drawing Objection

The drawing is objected to because it does not show the step of determining of rolling

circumference difference from actually determined test variables not does it show the rain sensor. A replacement sheet is filed herewith that corrects the actually determined . . . step. With regard to the rain sensor, associated claim 23 has been canceled thereby rendering the objection moot.

Claim Rejections – 35 USC 102

Claims 1, 2, 5, 6, 11-17 (corresponding to pending claims 18, 19, 26, 27, 28-33) are rejected under 35 USC 103(a) as being unpatentable over Gustafsson (WO 01/87647) in view of Okawa (US 5,591,906).

Applicant has amended independent Claim 18 to include the limitations of claims 26 and 27 (corresponding to originally filed claims 5 and 6). Applicant respectfully submits that the cited combination of references does not provide all of the elements of amended Claim 18 and therefore can not provide a *prima facie* case of obviousness.

In particular, amended Claim 18 describes a two step process of learning at least one torsion natural frequency. The two step process requires that (1) initially only a rough position of the torsion natural frequency f_p is determined in a wide frequency range, such as a frequency range of roughly 20 hertz to roughly 60 hertz, with a coarse frequency resolution, such as a frequency resolution of approximately 1 hertz, and

(2) subsequently a range is defined around the approximate position of the torsion natural frequency f_p , in which a precise position of the torsion natural frequency f_P is determined with a fine frequency resolution, such as with a frequency resolution of approximately 0.5 hertz.

The examiner relies on Gustaffson Figs 6, 8, and 17c - steps 1716, 1718 to provide the two step process. Applicant respectfully requests that the examiner reconsider given the following.

As best understood, Gustaffson Figs. 6 and 8 show energy spectrums of uncorrected and corrected angular wheel speed signals. The corrections are related to tooth offsets from a theoretical ideal toothed wheel having uniform tooth distribution. In other words, the correction appears to compensate for machining, manufacturing, assembly tolerance, and other such imperfections that are inherent in the assembled wheel speed sensor system. Figs. 6 and 8 certainly do not show Applicant's claimed step of determining a rough position of the torsion natural frequency f_p determined in a wide frequency range with a coarse frequency resolution.

Also as best understood, Gustaffson Fig. 17c describes a traditional method for

interpolating wheel speed data based on the corrected angular wheel speed signal (Gustafsson page 18, lines 1-15). Fig 17c certainly does not show subsequently defining a range around the approximate position of the torsion natural frequency f_P , in which a precise position of the torsion natural frequency f_P is determined with a fine frequency resolution.

The tooth corrections that are applied in Gustafsson Fig 8 and the subsequent interpolation of Fig. 17c are *not* two step, coarse-then-fine frequency resolutions as claimed by the Applicant. For this reason Applicant respectfully believes that the combination of Gustafsson and Okawa does not provide all the elements of independent Claim 18 and believes that Claim 18 is in a condition for allowance.

The remaining claims depend either directly or indirectly from Claim 18 and are believed to be in a condition for allowance for at least the same reason as Claim 18.

CONCLUSION

Accordingly, Applicant believes that the claims as amended overcome the raised objections and rejections and are in a condition for allowance.

Respectfully submitted,

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